

REMARKS

This application was filed with 28 claims. Claims 1-28 have been rejected. Claim 2 has been canceled. Claims 1, 4-7, 10, 12, 13, 17, 18, and 21-26 have been amended. Therefore, Claims 1 and 3-28 are pending in the Application. Reconsideration of the Application based on the remaining claims as amended and arguments submitted below is respectfully requested.

The 35 U.S.C. § 112 Rejections

The Examiner rejected claims 1-28 under 35 U.S.C. § 112, second paragraph, indicating that the phrase “adapted to” does not clearly or positively recite the structure necessary to perform the corresponding recited functions. In response to this rejection, the Applicant has amended Claims 1-28 by removing the phrase “adapted to” and otherwise appropriately modified the grammatical form of the claims.

The 35 U.S.C. § 102 Rejections

Independent Claim 1: The Examiner stated his objections to claim 1 as follows:

“Claims 1-4, 8, and 9 are rejected (to the extent understood) under 35 U.S.C. 102(b) as being fully met by Duncan (USP 4524667).

Duncan discloses and electromagnetic pickup (Fig. 5) which comprises a bobbin-shaped support structure subassembly having a flanged top 54, a base 68, and a core (not numbered) between the flanged top and base; and wherein the base is adapted to allow a pole piece 86 to be positioned within the core and a magnet 76 to be positioned inside the base in contact with the pole piece.”

A careful reading of the Duncan reference illustrates that Duncan does not anticipate Claim 1. The Office Action, in referring to Fig. 5 of the Duncan reference, states that Duncan has “a base 68, and a core (not numbered) between the flanged top and base; and wherein the base is adapted to allow a pole piece 86 to be positioned within the core and a magnet 76 to be positioned inside the base.” An attentive inspection of Duncan’s Fig. 5 reveals the magnet is not positioned in the base opening (the base includes the base opening). Rather, the magnet is clearly positioned in the core. Furthermore, the Duncan reference specifically instructs that the “permanent magnet means, which includes an elongated permanent magnet 76 . . . is positioned in the hollowed-out central cavity [or equivalently, the core].” Col. 5 lines 45 – 49.

Although it is clear Duncan did not position the magnet in the base opening, the Applicant nonetheless amended Claim 1 to further emphasize the relationship between the base, the magnet and the core.

Claim 1 as amended is distinguished from the Duncan reference in at least the following ways:

1. Claim 1 requires “a magnet at least partially positioned inside the base opening” as illustrated in Applicant’s Fig. 8.
 - a. Contrarily, Duncan does not require the magnet to be positioned in the base opening. In fact, Duncan describes and shows the magnet positioned in the core and not the base opening. (See Fig. 5)

2. Claim 1 also requires “a base including a base opening having a base width . . . and the core including a core opening having a core opening width less than the base opening width.”

a. Duncan depicts and describes a core opening width that is not less than the base opening width. A thorough review of Duncan further reveals it is devoid of any such language relating to the relationship of the core opening width to the base opening width.

Accordingly, it is respectfully submitted that Claim 1 is distinguishable from the Duncan reference for all the reasons given and should be allowed.

Dependent Claims 3, 4, 8, 9:

Claims 3, 4, 8, 9 are dependent claims that depend, either directly or indirectly, from Claim 1 and include all of the limitations of that claim. As a result these claims are patentable over Duncan for the same reasons that Claim 1 is patentable over Duncan.

However, a number of features found in the dependent claims which provide substantial further reasons for allowance of those dependent claims, and some of the more significant ones will be discussed below. This is not in any way to be taken as an indication that all of the distinguishing features of the dependent claims are listed below.

Namely, the present invention in Claim 3 requires that “the pole piece has a length equal to the predetermined support structure length.” Duncan does not have

the same requirement. Duncan's arrangements are illustrated in Figs. 2, 4, and 5. Specifically, Fig. 5 evinces that the pole pieces do not have a length equal to that of the support structure. This is in stark contrast to the requirements of Claim 3.

Claim 4 states "the pole piece does not extend out of the flanged top or out of the base." Conversely, the Duncan reference explicitly shows the pole piece extending out of the base and into the flatwork in Fig. 5. Clearly, Duncan is adverse to the teachings of Claim 4.

Independent Claim 10: The Examiner stated his objections to claim 10 as follows:

"Claims 10, 11, 13-17 are rejected (to the extent understood) under 35 U.S.C. 102(b) as being fully met by Chobanian et al (USP 4348930).

Chobanian et al discloses a transducer for sensing string vibrational movement in two mutually perpendicular planes (Fig. 3) which comprises a magnetic assembly having only two magnetic pole pieces 32,34 and adapted to generate two magnetic fields; a coil assembly 40 positioned within the magnetic fields and adapted to generate two signals when the magnetic fields are varied by a guitar string vibrating in the magnetic fields; a support structure 70 adapted to provide support for the coil and the magnetic assemblies; and wherein the two signals generated by the coil assembly can be combined together in a predetermined manner to generate an x-plane signal representative of vibrations of the guitar string in a first plane a predetermined distance from and parallel to an upper surface defined on the support structure and a y-plane signal representative of vibrations of the guitar string in a second plane a predetermined distance from the magnetic pole pieces and perpendicular to the upper surface of the support structure (see Col. 4 line 20 – Col. 5 line 17)."

A brief review and discussion of the fundamental teachings of the Chobanian patent will be useful. The Chobanian patent employs two pole pieces to generate two magnetic fields that are mutually perpendicular to each other. These two mutually perpendicular fields encompass two mutually perpendicular planes 72 that converge on a single guitar string as shown in Figs. 3 and 4. This configuration necessarily dictates the characteristics of the two signals, x and y, generated by the transducer in Chobanian et al. The resultant x and y signals produced by the transducer describe the string vibrations along the two mutually perpendicular planes that converge on the guitar string. Fig. 3 shows that although the two planes 72 are perpendicular to each other neither is perpendicular nor parallel to the upper surface 68 of the support structure 66. Consequently, Chobanian et al generates two signals representative of guitar string vibrations in planes that are neither parallel nor perpendicular, with respect, to the upper surface of the support structure.

Claim 10 as amended is distinguished from the Chobanian et al reference in at least the following ways:

1. Claim 10 requires "the two signals generated by the coil assembly are combined together in a predetermined manner to generate an x-plane signal representative of vibrations of the guitar string in a first plane a predetermined distance from and parallel to an upper surface defined on the support structure and a y-plane signal representative of vibrations of the guitar string in a second plane a predetermined distance from the magnetic pole pieces and perpendicular to the upper surface of the support structure."

- a. Chobanian et al does not direct or envision signals that are representative of vibrations of guitar strings in planes that are “parallel to an upper surface defined on the support structure” or “perpendicular to the upper surface of the support structure.”
- b. Furthermore, Chobanian et al does not instruct that “the two signals generated by the coil assembly are combined together in a predetermined manner” to generate signals that are parallel and perpendicular to the upper surface of the support structure.

Accordingly, it is respectfully submitted that Claim 10 is distinguishable from the Chobanian reference for all the reasons given and should be allowed.

Dependent Claims 11, 13-17:

Claims 11, 13-17 are dependent claims that depend, either directly or indirectly, from Claim 10 and include all of the limitations of that claim. As a result these claims are patentable over Chobanian et al for the same reasons that Claim 10 is patentable over Chobanian et al. Although no discussion is included there are a number of features found in the dependent claims which provide substantial further reasons for allowance of those dependent claims.

Independent Claim 23: The Examiner stated his objections to claim 23 as follows:

“Claims 23-28 are rejected (to the extent understood) under 35 U.S.C. 102(e) as being fully met by Kinman (USP 7022909, originally filed 7/19/2001).

Kinman discloses a noise-sensing bobbin coil assembly (Fig. 3) comprising an electromagnetic array of individual audio transducers 51,53 adapted to be mounted on a guitar, each transducer adapted to generate two analog string signals having opposite polarities for a single guitar string vibrating a predetermined distance from the audio transducer; and the array further including a noise transducer 51 adapted to generate an analog noise signal representative of noise in the analog string signal pairs. See especially Col. 3 lines 19-25."

The Office Action cites Fig. 3 stating Kinman shows an "electromagnetic array of individual audio transducers 51,53 adapted to be mounted on a guitar, each transducer adapted to generate two analog string signals." Claim 23 does require the audio transducers to generate two analog string signals; however, Kinman discloses, and as is shown in Fig. 3, an audio transducer only capable of generating one string signal. Thus, an audio transducer capable of producing only a single string output is disclosed in the cited material of the Office Action (or in any other portion of the reference). Furthermore, the Office Action incorrectly uses the "transducer 51" as part of an audio transducer producing "two analog string signals" and as a distinct "noise transducer for generating an analog noise signal." Claim 23 requires both an audio transducer and a separate noise transducer. Thus, the Office Action incorrectly contorts "transducer 51" to encompass both the audio and noise transducers required by Claim 23.

Additionally, the Office Action states that Kinman discloses "a noise transducer 51 adapted to generate an analog noise signal representative of noise in the analog string signal pairs." A thorough reading of Kinman will demonstrate this statement is clearly not supported by any portion of the reference. Kinman is

only directed to generating a noise signal from a single coil or a dual coil transducer with one coil disabled. In either configuration only a single string signal will be generated.

Claim 23 as amended is distinguished from the Kinman reference in at least the following ways:

1. Claim 23 requires “an electromagnetic array of individual audio transducers mounted on a guitar, each transducer generates two analog string signals.”
 - a. Kinman is not directed to or require that an audio transducer “generates two analog string signals.”
2. Claim 23 requires “the array further including a noise transducer for generating an analog noise signal representative of noise in the analog string signal pairs.”
 - a. Kinman does not have a noise transducer that generates a noise signal “representative of noise in the analog string signal pairs.”
3. Claim 23 also requires “an electromagnetic array of individual audio transducers . . . each transducer generates two analog string signals . . . and the array further including a noise transducer.”
 - a. Kinman does not have both an audio “transducer [that] generates two analog string signals” and a “noise transducer.”

Accordingly, it is respectfully submitted that Claim 23 is distinguishable from the Kinman reference for all the reasons given and should be allowed.

Dependent Claims 24-28:

Claims 24-28 are dependent claims that depend, either directly or indirectly, from Claim 23 and include all of the limitations of that claim. As a result these claims are patentable over Kinman for the same reasons that Claim 23 is patentable over Kinman. Although no discussion is included there are a number of features found in the dependent claims which provide substantial further reasons for allowance of those dependent claims.

Independent Claim 23: The Examiner stated his additional objections to claim 23 as follows:

“Claims 23-28 are rejected (to the extent understood) under 35 U.S.C. 102(b) as being fully met by Beller (USP 5525750).

Beller discloses a humbucking pickup for an electric guitar which comprises an electromagnetic array of individual audio transducers 70, 130, 140 adapted to be mounted on a guitar, each transducer adapted to generate two analog string signals having opposite polarities (Fig. 8) for a single guitar string vibrating a predetermined distance from the audio transducer; and the array further including a noise transducer (Fig. 4) adapted to generate an analog noise signal representative of noise in the analog string signal pairs.”

Beller concerns a variation of the common “humbucker” pickup. The Beller reference directs the use of two elongated coil assemblies with opposite polarities. Two elongated flat rails or pole pieces are positioned within the coil assemblies as shown in Fig. 5. Beller asserts the shape of the coil assemblies, and the associated flat rails, are situated as to generate a controlled magnetic field that senses string

vibrations along a limited string length. It is claimed that the Beller reference produces a more defined magnetic field than typical pickups while still reducing the noise received in the pickup. The Beller reference relies on the inverted polarities of the two coil assemblies to reduce the noise in the pickup.

Claim 23 as amended is distinguished from the Beller reference in at least the following ways:

1. Claim 23 requires “an electromagnetic array of individual audio transducers mounted on a guitar . . . and the array further including a noise transducer for generating an analog noise signal representative of noise in the analog string signal pairs.”
 - a. Beller does not include both an “array of individual audio transducers” and a separate and distinct “noise transducer.”
2. Claim 23 explains that “each transducer generates two analog string signals.”
 - a. Beller does not require or disclose that “each transducer generates two analog string signals.” This is clearly shown in Beller’s Fig. 8 as each transducer only transmits one signal to the selector switch.

Accordingly, it is respectfully submitted that Claim 23 is distinguishable from the Beller reference for all the reasons given and should be allowed.

Dependent Claims 24-28:

Claims 24-28 are dependent claims that depend, either directly or indirectly, from Claim 23 and include all of the limitations of that claim. As a result these

claims are patentable over Beller for the same reasons that Claim 23 is patentable over Beller.

However, a number of features found in the dependent claims which provide substantial further reasons for allowance of those dependent claims, and some of the more significant ones will be discussed below. This is not in any way to be taken as an indication that all of the distinguishing features of the dependent claims are listed below.

Namely, the present invention in Claim 26 requires that “the electromagnetic array is mounted on a guitar bridge.” Contrarily, Beller discloses “a first pickup 70 is used at the neck location of the instrument; a second pickup 130 is the middle pickup; and a third pickup 140 is located near the bridge of the instrument.” Col. 8 lines 41-43. Beller makes no reference to or indication of positioning the transducers on the bridge of the guitar.

Claims 5-7, 12:

The Office Action stated “Claims 5-7, 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.” Accordingly, Claims 5-7 have been rewritten as independent claims with all of the limitations of Claim 1 included therein. Although Claim 12 was not written as an independent claim, it was amended to overcome the 35 U.S.C. 112, 2nd paragraph rejection annunciated in the Office Action. Furthermore, the

Applicant respectfully submits that in conjunction with the amendments to Claim 10, the corresponding base claim, the rejection to Claim 12 should be removed.

Claims 18-22:

The Office Action stated "Claims 18-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph." Accordingly, Claims 18-22 have been amended and the Applicant respectfully submits that the rejection should be removed.

Conclusion

For all of the reasons set forth above it is respectfully submitted that Claims 1 and 3-28 as amended are all in condition for allowance. Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.



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Respectfully submitted,

Lucian Wayne Beavers
Registration No. 28,183
WADDEY & PATTERSON
A Professional Corporation
Customer No. 23456

ATTORNEY FOR APPLICANT

Lucian Wayne Beavers
Waddey & Patterson, P.C.
Roundabout Plaza
1600 Division Street, Suite 500
Nashville, TN 37203
(615) 242-2400

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I hereby certify that this Response and Amendment in Application Serial No.10/657,769 having a filing date of September 8, 2003 is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

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Claire Ulanoff

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